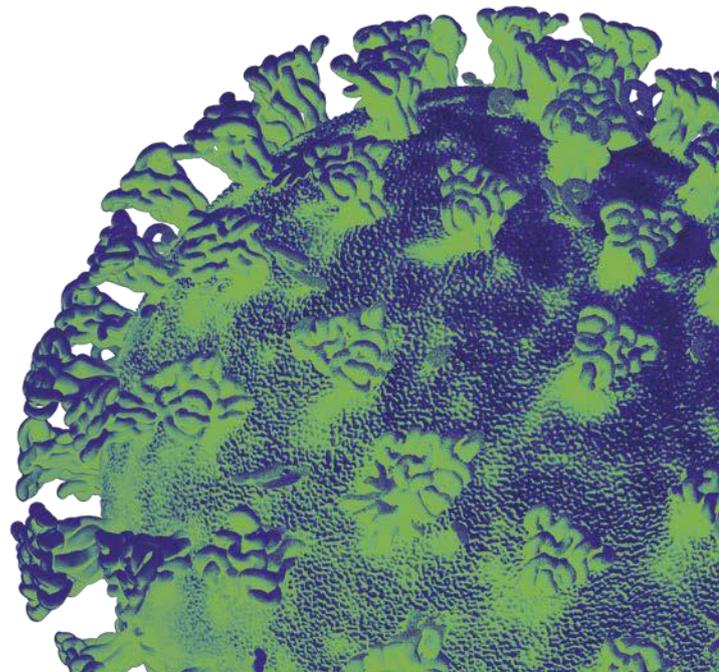
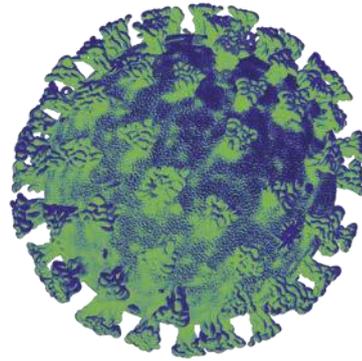
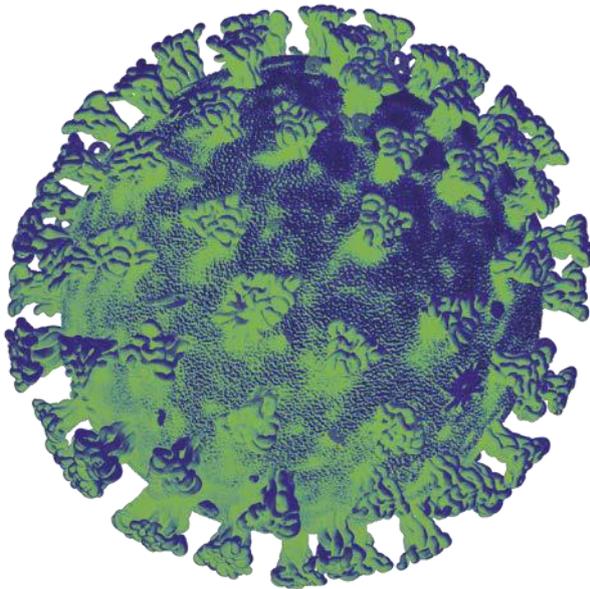


Advice from the Technical
Advisory Cell and Chief
Scientific Advisor for Health
21 Day Review

11th November 2021



Advice from Technical Advisory Cell and Chief Scientific Advisor for Health for the 21 Day Review

11 November 2021

This report provides:

1. The Wales situation regarding COVID-19 including international comparators.
2. Recommendations for responding to different scenarios, such as Covid-case rates remaining stable at current levels (Covid Stable);
3. Case rates and NHS pressures increasing significantly (Covid Urgent).
4. Supplementary advice for business interventions and behavioural insights on interventions in private homes.

It includes extracts from internal advice from Public Health Wales regarding a COVID Urgent scenario.

Summary

- There is benefit in maintaining the baseline measures in the COVID-Code¹ adopted by Welsh Government in the Coronavirus Control Plan, until at least March 2022 (High Confidence).
- The implementation of additional interventions during a COVID urgent scenario would be most effective if they are proportionate to the epidemiological context using the metrics identified in the Coronavirus Control plan, balancing the competing harms and supplementing baseline measures with a graded approach to NPI introduction (High Confidence).
- Wales should continue to pursue a collective response emphasising the need for everyone to play their part in reducing transmission, including individuals, communities, employers and government (High Confidence).
- Evidence from international comparators suggests booster vaccination will have a significant impact on reducing infections and severe outcomes and this should be a focus.

1. Wales situation update

- Overall cases of COVID-19 and test positivity rates have decreased across Wales compared to last week, with cases at over 510 per 100,000 population and test positivity at 19%.

¹ [Together we'll keep Wales safe | GOV.WALES](#)

- As at 9 November 2021, Wales has had 60,053 (+4,087) confirmed cases of the dominant Delta variant, and 4,469 (+755) confirmed cases of VUI-21OCT-01 (AY4.2). Please note that this represents confirmed cases of the new variant VUI-21OCT-01 (AY.4.2) following a 6-month retrospective scan. No other variants of concern were confirmed by genomic sequencing in Wales.
- Non-COVID-19 urgent and emergency pressure remains comparable to that we would experience at the height of winter, with above seasonal prevalence of non-COVID-19 respiratory disease evident whilst NHS also continues to try and recover from the considerable backlogs that have developed- culminating in total bed hospital occupancy being at its highest (8675 on 9th November) than at any point during the past 20 months.
- There is also a considerable staffing challenge across the health and care system, with staff sickness absence rates currently around 2% higher than pre-COVID rates, culminating in a lack of flow through the system and extended ambulance and emergency department waiting times.
- Over the latest week, the number of beds occupied with COVID-19 related patients has decreased. COVID-19 pressure on the NHS fluctuates but has generally increased since July. As at 11 November 2021, there were 805 COVID-19 related patients (Suspected, Confirmed and Recovering) occupying a hospital bed. As at 11 November there are 73 patients with Suspected or Confirmed COVID-19 in critical care beds in Wales.
- The number of deaths from COVID-19 increased through September and has since been fluctuating in recent weeks, with 61 deaths in the most recent according to PHW, although it remains lower than previous waves at similar case incidence.
- According to ONS², 701 deaths from all causes were registered in the latest week in Wales. This was 10 fewer than the previous week, and 73 more than the five-year average for 2015-2019. 81 deaths involving COVID-19 were registered in the latest week, reflecting 12% of all deaths. Most deaths involving COVID-19 registered during the pandemic to date occurred in hospitals (73%), followed by care homes (20%).
- As at 9 November 2021, a total of 5,291,148 doses of COVID-19 vaccine were given in Wales and recorded in the COVID-19 Welsh Immunisation System. 2,454,261 were first doses. 2,249,934 were second doses. 555,322 were booster doses. 31,631 were third dose primary course recommended for severely immunosuppressed individuals.
- The COVID-19 vaccination rollout of first and second doses has slowed in Wales. As at 6 November 2021, 91% of people aged 16 and over had received at least one COVID-19 vaccine dose in Wales. Of people aged 16 and over, 5% had exactly one vaccine dose, 66% had exactly two doses, and 21% have also had a third dose or booster, so 86% have had at least 2 doses. The booster programme, although in its initial stages, appears to be keeping pace with offering a booster to those who received their second dose 8 month ago (the

² [Deaths registered weekly in England and Wales, provisional - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/deaths/weekly-in-england-and-wales-provisional)

JCVI recommendation is a minimum of 6 months). Evidence from international comparators on boosters suggests that this may have a substantial impact on reducing infections and severe outcomes.

- As at 30 October 2021, it is estimated that 97% of people aged 16 and over in Wales had some immunity against COVID-19 infection. The lower and higher estimates of immunity are 87% and 100% of people aged 16 and over in Wales. If no vaccines had been administered, it is estimated that 45% of people aged 16 and over would be immune.
- As noted in advice for the most recent 21 Day Review, while self-reported adherence to protective behaviours remains reasonably high, this continues to fall for a range of indicators in Wales³ and elsewhere in the UK⁴. These indicators include, for example, physical distancing, hand hygiene, use of face coverings and working from home (where possible). Analysis of ONS data for Great Britain suggests this self-reported adherence increases with age for use of face coverings, physical distancing and hand hygiene. In terms of mixing indoors, slightly higher rates are reported for those aged 16-29 and 70 and above⁵. Data from the UCL Covid-19 Social Study also suggest such an age gradient for their measures of self-reported complete and majority compliance⁶.
- Wastewater monitoring for Covid-19 in Wales across South and North Wales has been subject to interference from the significant levels of rainfall observed during October. The trend over the last four weeks indicates a declining level of SARS-CoV-2 infection in these regions.
- The latest mobility data shows an increase in workplaces category and decreases in 'commutes', 'retail and recreation' and 'public transport' in the latest week compared to the previous week. There was marginal decreases in residential and Public transport (people spending time at home).
- There have been 228 positive travellers (0.96% positivity), compared to 119 for the previous week (0.47% positivity) at time of reporting.
- Spain continues to provide the greatest number of travellers – however there was a decrease of 10.5% compared to the previous week. Other popular holiday destinations (Greece, Portugal, Cyprus, and Turkey) also saw a decrease in travellers, however, there were increases seen in travellers from France (14.8%), Germany (8.2%), Poland (8.3%) and the United Arab Emirates UAE (45.7%).

International comparators

- The Covid-19 pandemic has not ended in Europe; on the contrary, it has re-emerged with some vigour following a relatively quiet period during the summer

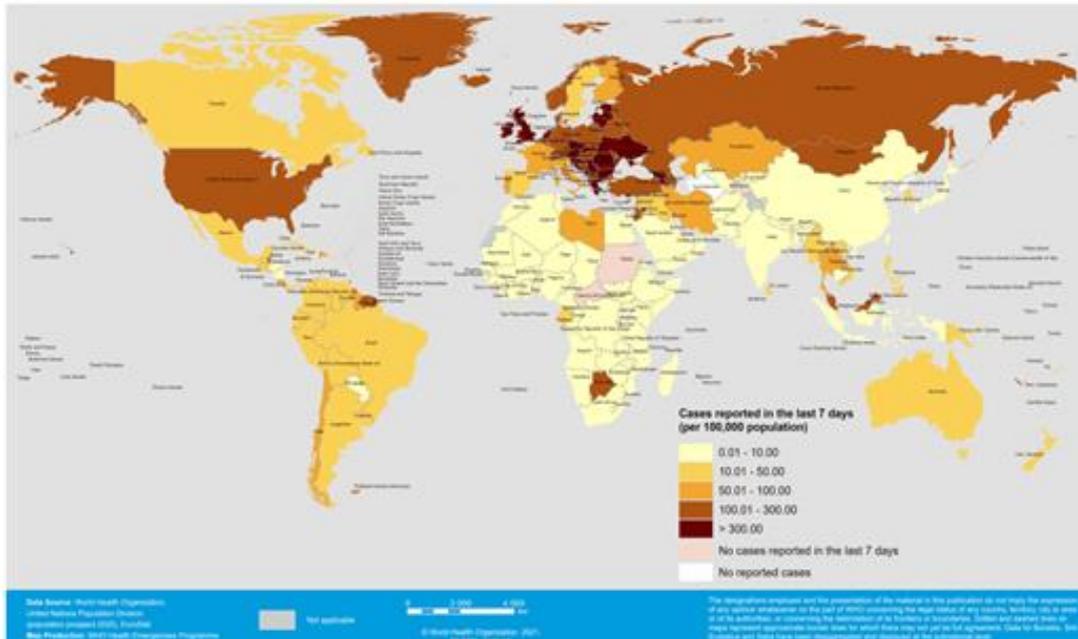
³ [Survey of public views on the coronavirus \(COVID-19\): 29 October to 1 November 2021 | GOV.WALES](#)

⁴ See for example [REPORTS | COVID Social Study](#) or [Coronavirus and the social impacts on Great Britain - Office for National Statistics \(ons.gov.uk\)](#)

⁵ [Coronavirus and the social impacts on Great Britain - Office for National Statistics \(ons.gov.uk\)](#)

⁶ [REPORTS | COVID Social Study](#)

months. The recent rises in Eastern Europe have been due to a number of factors, principally the spread of the Delta VOC, the relaxation of NPI controls, reduced vaccine coverage and to a lesser degree vaccine waning. Despite reasonably good vaccine coverage in many countries, the transmissibility of Delta has allowed it to spread within the unvaccinated, mainly young parts of the population, although there are worrying signs of vaccine waning in older and more vulnerable populations. Overall in Europe, death rates are rising, having risen 10% in 7 days (Nov 8th). Elsewhere cases are dropping.



(Source: WHO)

- It is too early to say whether these recent rises will persist through the winter months in those countries currently affected because of measures taken to control the infection rates. Latvia is the first country to reimpose lockdown in Europe's new Covid wave. However, it may be expected that those countries with current low levels of infection, i.e. Spain, Portugal, France and Italy will experience higher rates of infections through the coming winter months. Germany's coronavirus infection rate has risen to its highest level since the start of the pandemic (200/100,000)
- In many European countries, the vaccination programmes have been rolled out reasonably well and have similar levels of coverage to the UK, although there are quite large differences between the outliers with several eastern European countries less than 50% fully vaccinated. For most countries, booster vaccination campaigns offer hope of reducing the impact of a difficult winter, so long as they can be rolled out in time. However many countries are considering whether some NPIs will need to be reintroduced if death rates increase further. Deaths are still concentrated in the unvaccinated but this may change if vaccine waning becomes widespread. Some countries have started the reintroduction of NPIs, with the Netherlands re-imposing measures including wearing of face coverings to slow a spike in infections and broadening of the use of a corona-

pass to public areas⁷. The application and maintenance of NPI controls such as face coverings is still a key tool to controlling the virus, albeit one with varying degrees of governments' and public support.

- Following a rapid resurgence of COVID-19 in July, data⁸ from Israel suggests that their booster vaccination campaign, which has been expanded to younger age groups, is having a significant effect on infection rates and preventing severe outcomes. Compared with two doses of the vaccine administered at least 5 months before, adding a third dose was estimated to be 93% effective in preventing COVID-19-related admission to hospital, 92% in preventing severe disease as of 7 or more days after the third dose. Another study⁹ suggests an 11-fold reduction in rate of infection in the booster group, and a 19.5-fold reduction in severe illness. The booster programme has been combined with a reintroduction of an indoor mask mandate and a tightening of its green pass system, which the Israel MOH states is expected to remain for the foreseeable future.

2. Responding to different Scenarios

- As in previous advice^{10,11}, existing protective behaviours (e.g. social distancing, ventilation, hand hygiene and mask usage) remain important, but given the increase in transmission associated with the Delta variant, it is recommended that adherence to existing measures should be improved.
- In line with the COVID-Code adopted by Welsh Government in the Coronavirus Control Plan, it is recommended that many of the existing baseline measures should remain in place until at least March 2022. These are summarised below:

Always:

1. Stay at home (self-isolate) if you feel ill; if you have COVID-19 symptoms get a PCR test.
2. Self-isolate if you have COVID-19, or have been advised to do so by NHS Test Trace Protect.
3. Provide as much support as you can to help other people self-isolate.
4. Get all of your COVID-19 vaccines and boosters, and encourage those around you to get theirs too.

Where possible:

5. Minimise the number of face-to-face contacts you have, and the time spent with them.

⁷ [Measures announced | Coronavirus COVID-19 | Government.nl](#)

⁸ [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02249-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02249-2/fulltext)

⁹ [Protection of BNT162b2 Vaccine Booster against Covid-19 in Israel | NEJM](#)

¹⁰ [advice-from-the-technical-advisory-cell-and-chief-scientific-advisor-for-health-21-day-review_0.pdf \(gov.wales\)](#)

¹¹ [Technical Advisory Group: sustaining COVID-safe behaviours in Wales \[HTML\] | GOV.WALES](#)

6. Meet-up outside, but if you are indoors, open doors and windows.
7. Wear a face covering in crowded, and indoor, public spaces.
8. Wash/sanitise your hands regularly and always sneeze into your elbow.
9. Work from home when you can.

- To maintain trust and protect majority-level-actions, PHW and SPI-B¹² recommend the following principles should be applied:
 - Co-produce communications (to build self-relevance) and use credible, trusted messengers.
 - Explain the WHY (to build intrinsic motivation); focus on rationale (transmission prevention, keeping life going); employ the ‘question-behaviour’ effect – ask pertinent questions, rather than issuing instructions or mandates.
 - Celebrate and emphasise collective efforts within the population; acknowledge the value of shared identities and collective responsibility/goals, for example accentuating the positive stories around the sacrifices people have made to protect others, high levels of adherence to public health behaviours and the role of mutual aid groups.
 - Frame measures in terms of collective care and concern, and in collective and personal gains, rather than personal restriction.
 - Place more emphasis on normalising protective behaviours and provide feedback, for example to leverage social norms of vaccine uptake. This could be through use of data, for example proportion of adults vaccinated (a large percentage) or recent numbers vaccinated by age band of focus, or use role modelling to support adoption of positive behaviours in target audiences.
- As per the refreshed Coronavirus Control Plan, the **Covid Stable** scenario will not require the re-imposition of any significant measures, such as legal limits on the number of people who can meet or business closures.
- However, the **Covid Urgent** scenario where new and unexpected Covid pressures emerge would require more significant action to protect public health and people’s lives. This would include a new, highly-transmissible variant establishing itself in Wales, or a variant which does not respond to the vaccine. This could also result in unsustainable pressure if the protections from the vaccine wane more quickly than expected, causing higher levels of hospital admissions or if population behaviours were to see a rapid return to pre-pandemic states.
- Building on the COVID-Code as a baseline, two potential scenarios are outlined below along with advice on the minimum, most effective and most proportionate response:

¹² [SPI-B: Behavioural considerations for maintaining or reintroducing behavioural interventions and introducing new measures in Autumn 2021 \(publishing.service.gov.uk\)](#)

a) Covid Stable with rates remaining broadly static at a high level:

- In this scenario, the effect of transmission and vaccination effectively cancel each other out, resulting in a slower, more chronic situation of sustained high incidence. This places considerable pressure on the NHS as well as systems such as test and trace but is not necessarily indicative of a critical or worsening exponential situation. However, this could be very sensitive to further changes in behaviour and waning immunity and a negative change in either of these areas could lead to the beginnings of a COVID Urgent situation, requiring proportionate action.
- SPI-M modelling of a reimposition of non-pharmaceutical interventions¹³ emphasises that the higher the growth rate, the greater the transmission reduction needed to bring R below 1 and reduce prevalence. As a result a situation of high prevalence combined with broadly static case rates could be negated by a relatively limited set of interventions, which would lead to a rapid reduction in prevalence. Similarly, the earlier measures are enacted, the less likely that stringent ones would be needed and the faster they would likely be able to be lifted.
- As a result, the most important levers for controlling the pandemic are encouraging and supporting those with symptoms or a positive test to self-isolate, and a focus on increasing vaccination coverage in underrepresented populations and delivering the booster programme to those who are eligible¹⁴ as rapidly as possible.
- Implementation or reinforcement of the above COVID-code or any additional measures needs to be supplemented by clear, concise and tailored communication and be positively framed, designed to ensure equity, and ideally co-produced. Consideration should be given to issuing targeted messages before reintroducing NPIs, so that those most at risk have the option to stay at home, if the numbers reach a certain threshold. Packages of measures are highly likely to be more effective than individual measures, and continued support for those affected also needs to be considered.

b) Covid Urgent (Rates and NHS pressures are increasing significantly):

- Warwick University has modelled a pandemic undergoing exponential growth and what scale of intervention might be required to halt growth and return to a flat trajectory using their metric of precautionary behaviour. When society is relatively open, only light additional measures would be required to successfully arrest growth that was doubling every two weeks. This is consistent with work from LSHTM, which suggests relatively mild measures can now make a big difference to transmission. In other words, the less interventions are in place during an urgent situation, the less interventions are required to have a tangible impact.

¹³ [Research and analysis overview: SPI-M-O: Summary of modelling considerations for the reimposition of measures, 13 October 2021 - GOV.UK \(www.gov.uk\)](#)

¹⁴ [COVID-19 vaccination booster for priority groups | GOV.WALES](#)

- The implementation of additional interventions during a COVID urgent scenario, must be proportionate to the epidemiological context using the metrics identified in the Coronavirus Control plan, balancing the competing harms and supplementing baseline measures with a graded approach to the re-introduction of protective measures. PHW's recommendations to Welsh Government for a multi-stage approach are laid out below. Note that this is largely from a 'COVID-perspective' and an integrated impact assessment that considers wider economic, social, equity and wellbeing impacts would be strongly recommended before the below is considered for implementation.
- Estimates of transmission reduction from a European-level study¹⁵, as a percentage reduction in reproductive number (R_t), include: business closures - 35% (gastronomy 12%, nightclubs 12%, retail and close contact services 12%); banning all gatherings 26% (more stringent restrictions work better, ban on groups ≥ 10 people only a small effect. The effect of closing all educational institutions in the 2nd wave was only a 7% reduction in R_t . Mask wearing in most or all shared spaces had a 12% effect.

PHW proposed Stage 1 of Covid-Urgent scenario

- Interventions that offer the potential for greater reduction in R_t are chosen first in a COVID-Urgent scenario. Behavioural science evidence ¹⁶ also suggests a need to balance this against the potential influence on adherence that can be affected by the ordering of the intervention. Interventions suggest in Stage 1 offer between 10% to 30% reduction in R_t estimates, based on good compliance:
 1. Re-introduction of Social distancing
 2. Cease all mixing between households, except where single person household can form a bubble with one another household
 3. Supplementary actions such as protection of the vulnerable individuals in vulnerable settings (e.g. shielding of the elderly), stricter testing policies, closure of public transport and wider mandated use of face coverings
 4. Ban public gatherings and mass events
 5. Implement a night-time curfew, noting there is a delicate benefit/harm balance
- *The PHW recommendation is for these interventions to be introduced **simultaneously**.*

¹⁵ [Understanding the effectiveness of government interventions against the resurgence of COVID-19 in Europe \(nature.com\)](https://www.nature.com/articles/d41586-020-00000-0)

¹⁶ [Behavioural changes before lockdown and decreased retail and recreation mobility during lockdown contributed most to controlling COVID-19 in Western countries \(biomedcentral.com\)](https://www.biomedcentral.com/doi/10.1186/s12916-020-01600-0)

PHW proposed Stage 2 of Covid-urgent scenario

- If there is continued evidence of exponential growth despite the above interventions (after at least 3+ weeks), it may be necessary to progress to more stringent measures. These interventions seek to keep the education sector and non-essential retail businesses going as far as possible, recognising the balance of harm and benefit by closure of these sectors. The potential additive impact on Rt (between 40% to 50%) from these set of interventions are greater and if kept for sufficiently longer duration is likely to bring case incidence lower:
 1. Closure of non-essential retail businesses
 2. Closure of Secondary Schools
 3. Closure of Primary Schools
 4. Stay-at-home directive (similar to full lockdown)
- *The recommendation is for these interventions to be introduced **sequentially** in the order set out above.*
- Additional interventions to control and reduce harm from co-infections can, like vaccination, reduce the impact of COVID-19 transmissions. Influenza has an estimated 2-fold increase in mortality in SARS-CoV-2 infected patients^{17,18}, so interventions such as influenza vaccination and early detection and control of influenza cases in closed settings (including using antivirals), in line with the recently published Welsh Government Winter plan¹⁹, can help to reduce the impact of infection.
- Longer-term measures to improve spacing, ventilation and air treatment, particularly in higher risk venues and workplaces, including hospitals, will have a more permanent effect on the transmission of COVID-19, other respiratory viruses and future public health concerns.
- Use of the NHS COVID pass could also be expanded further, although a SPI-B analysis²⁰ of the impact of COVID-19 certification on age-specific vaccine uptake and infections in Europe suggests the impact of certification on reducing rates of infection or severe disease was unclear. Israel have recently updated their Green Pass²¹ requiring individuals to have completed two or three courses and received their most recent vaccination less than six months ago in order to qualify to enter venues such as:

¹⁷ [Interactions between SARS-CoV-2 and influenza, and the impact of coinfection on disease severity: a test-negative design - PubMed \(nih.gov\)](#)

¹⁸ [S1396_NERVTAG_Respiratory_infections_their_interactions_with_SARS-CoV-2_and_implications_for_winter_2021_2022_20_September_2021.pdf \(publishing.service.gov.uk\)](#)

¹⁹ [Winter Protection Plan 2021-2022 \(gov.wales\)](#)

²⁰ [Research and analysis overview: University of Oxford and Nuffield College: The impact of mandatory COVID-19 certificates on vaccine uptake – synthetic control modelling of 6 countries, 14 October 2021 - GOV.UK \(www.gov.uk\)](#)

²¹ [Green Pass Restrictions - Corona Traffic Light Model \(Ramzor\) Website \(health.gov.il\)](#)

- Culture and sporting events
 - Conferences and exhibits
 - Hotels
 - Gyms, studios, pools, and country clubs
 - Houses of worship with more than 50 people
 - Event venues and gardens
 - Restaurants, bars, dining rooms, and cafes
 - Museums and libraries
 - Tourist attractions and amusement parks
 - Universities and establishments of higher learning
 - Festivals
 - Any gathering with more than 100 people
- Increasing the range of applicable settings, time-limiting certificates based on last vaccination date, and including a requirement for proof of a negative test, could all be considered to potentially increase the impact of certification on transmission and vaccine uptake (Low Confidence). Clear and consistent communications (with sufficient notice and positive framing) and ease of access to vaccination are also likely to influence outcomes. However, there are potential harms and inequalities that should be considered prior to implementation²².

When should Covid Urgent be implemented?

- The aims and principles outlined in the autumn and winter update of the Coronavirus Control Plan continue to be relevant. Covid Urgent describes a scenario in which Welsh Government could have to take urgent action if Wales experienced similar or more severe pandemic pressures on the NHS to winter 2020.²³ We consider this scenario to be unlikely but a realistic possibility.
- Reintroduction of NPI's as discussed in the previous section would occur in a different context of higher population level immunity from vaccinations, potential waning immunity for those vaccinated early, dominance of Delta variant, end of furlough scheme and areas of enduring transmission, and increased deprivation and financial hardship.
- Work from SPI-B/SAGE examining 12 behavioural interventions across 30 countries²⁴ indicates no sign of decline in effectiveness (measured by cases, hospitalisations, deaths) of interventions when reintroduced for a second or third time, suggesting that reintroduction could be effective if necessary. Wales has seen consistently high self-reported intention to adhere to personal protective behaviours; indeed the most recent polling²⁵ shows high proportions reporting continuity of adherence, although as noted above, there is now evidence of a gradual decline.

²² See [SPI-B, SPI-M and EMG: Considerations for potential impact of Plan B measures, 13 October 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/spi-b-spi-m-and-emg-considerations-for-potential-impact-of-plan-b-measures) and [Technical Advisory Group: advice on vaccine passports | GOV.WALES](https://gov.wales/technical-advisory-group-advice-on-vaccine-passports)

²³ [Coronavirus Control Plan: autumn and winter 2021 update \(October 2021\) \(gov.wales\)](https://gov.wales/coronavirus-control-plan-autumn-and-winter-2021-update)

²⁴ [SPI-B: Behavioural considerations for maintaining or reintroducing behavioural interventions and introducing new measures in autumn 2021, 14 October 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/spi-b-behavioural-considerations-for-maintaining-or-reintroducing-behavioural-interventions-and-introducing-new-measures-in-autumn-2021)

²⁵ <https://phw.nhs.wales/topics/latest-information-on-novel-coronavirus-covid-19/how-are-you-doing/how-are-we-doing-in-wales-reports/how-are-we-doing-in-wales-week-78-report/>

- Regardless of type, interventions are likely to be most effective in combination - measures are not likely to be simply additive but may have complementary interactions that result in a greater cumulative impact on transmission.
- Timing is also important, as modelling suggests that the effect of introducing NPIs may be delayed by up to 3 weeks⁷. A temporal analysis of the impact of NPIs suggests that the impact (measured as reduction in R_t) also varies between different interventions, with a median of 8 days following the introduction of NPIs to observe 60% of their maximum reduction in R and even longer (17 days) following their relaxation to observe 60% of the maximum increase in R .²⁶
- If going into a COVID-Urgent scenario, this will likely be as a result of a novel variant of concern with properties such that infection fatality ratios increase significantly to be comparable to previous waves. This will require careful consideration of the proportionate basket of measures and indirect harms.

3. Specific requested advice around NPIs:

In addition to advice around a COVID-Urgent scenario, specific advice was also requested, the response to which is provided below.

Businesses: *Social distancing v Covid pass implementation*

Evidence was requested to support whether businesses could be given the choice between:

1. *Implementing physical distancing rules (2 metres) between groups of six (or individual households if more than six people live together); or*
2. *Requiring the covid-pass for entry (but not forced to ensure 2m distance or small groups – other mitigations should still be in place where possible)*

Recommendation: Businesses should not be given a choice between these two options as they are not equivalent nor exclusive. The evidence for these is summarised below. Businesses should continue to be encouraged to use whatever methods are available to them to reduce the risk of transmission in their premises and both physical distancing and COVID pass should be considered as options along with improving ventilation, hand-hygiene and use of face coverings.

- Data from the PROTECT study, using HSE datasets to understand real-world transmission²⁷, has provided many insights around what controls are being used by businesses, how they're being implemented and where barriers or issues are arising. A key finding is that there are significant differences in outbreak rates geographically within the same sector, and risks are not universal. At an organisation level there is also considerable heterogeneity in attack rates, attributable to different work areas, variable natural and mechanical ventilation

²⁶ [The temporal association of introducing and lifting non-pharmaceutical interventions with the time-varying reproduction number \(R\) of SARS-CoV-2: a modelling study across 131 countries - The Lancet Infectious Diseases](#)

²⁷ Unpublished at time of writing

and complex staff interactions. Unsurprisingly, a lower proportion of remote working staff is closely correlated with a higher number of monthly cases. The study also suggests that, when comprehensively adjusted for age, geographic, socio-economic and health factors, occupation is a much smaller risk factor than previously estimated in other studies.

- SAGE and TAG have previously advised physical distancing between people reduces risk of exposure to all virus containing droplets and aerosols, with a significant reduction in exposure by around 2m, while exposure beyond 2m is mainly determined by ventilation. Transmission risk is likely to increase substantially below 2m, especially if interactions happen over longer periods of time²⁸.
- Physical distancing and use of face coverings are both important mitigation strategies to reduce transmission of SARS-CoV-2. However, these mitigation measures are likely to be needed to be applied more consistently and effectively to be able to mitigate transmission of the Delta variant. Reintroducing 2m distancing for many sectors could be economically damaging and some premises would say not viable, particularly if already precarious and this should be considered using a balance of harms approach.
- As noted above, data from Ipsos MORI for Wales²⁹ suggest around half of respondents continue to report keeping 2 metre distancing when out and about, down from around three in four earlier in the pandemic.
- As suggested previously in TAG's vaccine passport paper³⁰, even with careful planning and application there may not be a net benefit to the introduction of immunity certification in terms of reduction in transmission. Levels of infection in the community will have an important impact on the level of risk and any effectiveness of certification, with effectiveness likely to be lower when infection rates are high.
- Communication to the public on any certification policy would be important, and attitudes towards certificates can vary between different groups. Critically, messaging should stress certificates should not imply that an individual has no risk, rather they have a reduced risk. As a result it should be implemented alongside other measures to control transmission as part of a risk-based approach.
- A subsequently published SAGE paper on the impact of certification focuses largely on the impact on vaccine uptake rather than reducing infections, due to difficulties in assessing the available data which showed a downward trend in

²⁸ [EMG: Application of physical distancing and fabric face coverings in mitigating the B117 variant SARS-CoV-2 virus in public, workplace and community, 13 January 2021 - GOV.UK \(www.gov.uk\)](#)

²⁹ [Survey of public views on the coronavirus \(COVID-19\): 29 October to 1 November 2021 | GOV.WALES](#)

³⁰ [Technical Advisory Group: advice on vaccine passports | GOV.WALES](#)

some countries (France, Germany, Italy) and an increase in others (Israel, Denmark)³¹.

- As recommended in the previous advice around introduction of face coverings³², if introduced vaccine certificates may result in potentially higher demands on police and businesses, which may lead to lack of compliance and confrontations [medium to low confidence]. Clear regulations should therefore focus on explicit definitions of settings where they are required and who will be responsible for enforcement.

Reintroducing face coverings in hospitality (when not actively eating and drinking)

As stated previously, communications regarding reinforcing the role of face coverings would benefit from a focus on:

- Emphasising updated scientific evidence on effectiveness;
 - Clarifying how and why they work;
 - Reiterating correct usage and which face coverings are most effective;
 - The high adherence levels seen throughout the pandemic.
-
- Advice on face coverings can be found in the previous TAG advice²¹. A review of the effectiveness of face masks to reduce the spread of transmission of SARS-CoV-2 in the community concluded face coverings may play an important role, may not be effective in isolation of other measures³³.
 - There is also emerging evidence of an influence of dose on the nature and severity of SARS-CoV-2 infection, so interventions that aimed at reducing the infectious dose such as face coverings, ventilation and spacing, and air treatment, have the potential to reduce overall disease burden.
 - A simplification of messaging so that face coverings are mandatory in indoor spaces except when eating/drinking may bring some benefits, such as reducing confusion over enforcement and providing a visual reminder that protective behaviours are still recommended. However, it is likely that due to the brief amount of time when patrons would be wearing their face coverings impact on overall transmission could be minimal, adding to a sense of inconsistency and tokenism for limited gain.

Behavioural evidence regarding likelihood of compliance with reintroduction of previous Alert level 1 rules in private homes (extended households and gatherings limited to 6 people)

³¹ [Research and analysis overview: University of Oxford and Nuffield College: The impact of mandatory COVID-19 certificates on vaccine uptake – synthetic control modelling of 6 countries, 14 October 2021 - GOV.UK \(www.gov.uk\)](#)

³² [Advice from Technical Advisory Cell and Chief Scientific Advisor for Health: 21 day 28 October | GOV.WALES](#)

³³ [RR 00007_Wales COVID-19 Evidence Centre_Rapid Review.Face coverings 27Tth July 2021_Final.pdf \(primecentre.wales\)](#)

- Self-report data for Wales³⁴ suggest that mixing in private households was fairly limited during previous alert levels but has increased, not surprisingly, since the requirement was lifted, mostly for socialising. Latest data suggest For example, the most recent data suggest around half had people outside their household in their home in the last week, while two in five had visited someone else's house. Around three in five reported these visits were for social purposes. Given the importance of social interaction, particularly for mental wellbeing, this is not surprising. It is not possible to predict whether the level of adherence to measures limiting mixing in private homes would reach that seen when required previously in the pandemic. However, it is highly likely adherence will be higher if measures were to be reintroduced rather than requested on an advisory basis.
- Recent data from the ATACCC study on community household infections suggests that while vaccines remain highly effective at preventing severe disease and deaths from COVID-19, vaccination is not sufficient to fully prevent efficient transmission of the Delta variant in closed settings with prolonged exposures. The secondary attack rate among fully vaccinated household contacts is around 20%, compared with around 35% in the unvaccinated. Around one third of contact exposures arose from fully-vaccinated index cases and half of infected contacts were fully-vaccinated. Although current evidence.³⁵
- SAGE's evidence summary on reducing within- and between-household transmission during the Alpha variant phase of the pandemic continues to be relevant³⁶. A comprehensive package of information and support would likely improve household implementation of self-isolation, especially in disadvantaged households and communities. Maximum effect will require a continued focus on the broad range of barriers to adherence that exist, including financial, practical, informational and emotional factors (high confidence).
- In the absence of strong measures to reduce between-household transmission such as limitations on group numbers, reduction of within-household transmission may have limited influence, but when the epidemic is sufficiently controlled by reducing between household mixing, reduction of within-household transmission can potentially make a substantial contribution to further reducing prevalence (medium confidence).

4. Welsh policy modelling

- TAG modelling is postponed for this 21 day review. See the previous 21 day review advice³⁷ for the most recent agreed modelling.

³⁴ Ipsos MORI unpublished data.

³⁵ [Community Transmission and Viral Load Kinetics of SARS-CoV-2 Delta \(B.1.617.2\) Variant in Vaccinated and Unvaccinated Individuals](#)

³⁶ [EMG/SPI-B/SPI-M: Reducing within- and between-household transmission in light of new variant SARS-CoV-2, 14 January 2021 - GOV.UK \(www.gov.uk\)](#)

³⁷ [advice-from-technical--advisory-cell-and-chief-scientific-advisor-for-health-21-day-review.pdf \(gov.wales\)](#)

